



Air Source Heat Pumps: all you need to know



Air Source Heat Pumps are a very energy-efficient way to heat your home. They can work by themselves and work with your existing central heating system to provide heating and hot water.

- **Highly efficient source of heat and hot water**
- **Zero carbon if used with a renewable tariff**
- **Low-maintenance with a long service life**



What is an Air Source Heat Pump?

Air Source Heat Pumps (ASHPs) absorb heat from the outside air to heat your home and hot water. They can still extract heat when air temperatures are as low as -15°C. They're designed to heat to low temperatures over a long period of time, rather than quickly providing heat when turned on.



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How do Air Source Heat Pumps work?

Heat from the air is absorbed at low temperatures into a fluid. This fluid passes through the system, increasing the required temperature, and transfers that higher temperature fluid to the heating and hot systems of the house.

Using an ASHP for heating

Air source heat pumps have a lower output compared to gas or oil-fired boilers, but they're much more cost effective. They produce a more comfortable source of heat rather than the instant heat as from a gas boiler, this means they can remain on for longer at a much lower cost.

Using an air source heat pump for hot water

Heat pumps can also be a great source of hot water – but as with the heating, the water will be cooler so you may decide to use more water than usual. This means the water will cost you no more and you may not need to add cold water.

Why is the heat pump outside?

The Air Source Heat Pump looks similar to an air conditioning unit and is fixed outside to bring in the air required to work the heating and hot water.

Setting up your Vaillant system

When setting up your new Vaillant system this video guide to set up will be really useful. **Remember not to leave it until the weather gets colder to set up your system.**



1. Start by setting the **date and time** in the **menu** under **basic settings** using the rotary knob to select your settings.
2. Set the temperature of your system in **desired temperatures . Zone 1**

- a. **Day temp. heating** - is the temperature that you want to have in the rooms during the day or when you are at home.
 - b. **Day temp. cooling** is the temperature that you want to have in the rooms during the day or when you are at home.
 - c. **Set-back temp. heat.** is the temperature that you want to have in the rooms during the night or when you are away from home (night mode).
3. Programme your heating by selecting **menu** and **time programmes** – you can set the heating to come on and off at different times each day.
 4. Set the **hot water temperature** in **menu** under **desired temperatures** and **domestic hot water**.

Store your user manual safely in case you need to look at it later.

Top Tips on using your air source heat pump

- Heat pumps are designed to run for long periods of time. This means it's usually **cheaper and warmer to leave them running during the day**, instead of only heating in the morning and evenings.
- We recommend to leave your **thermostat on constantly set at between 18 – 21 degrees** during the winter months so that you don't have to keep heating the system from cold.
- They respond slowly to temperature changes. So, when you want to turn the temperature up, **change the setting of your room thermostat by one or two degrees at a time**.
- Wait to see if you are comfortable at this new setting before turning it up again. Remember that **the harder a heat pump works the more electricity it will use**.

- Make sure there are no items in around the external unit so that air can flow around the unit. This includes removing any snow or ice that might cover the vents during the winter.
- For best results and to save money, keep windows and doors closed and make sure curtains are drawn at night, keeping all that heat in your home and your hard-earned money in your pocket.
- **Once you've had the system installed don't be afraid to ignore it!** A correctly set up system will keep you warm and provide plenty of hot water for your needs

When you don't want heat

Heat pumps should NEVER be turned off completely. This is because it'll be extremely expensive turn back on and raise to the right temperature, quickly. It can also take several days to get your home back to a comfortable temperature.

At night: Lower the temperature to around 10-15°C, and then set it to slowly increase in the morning so that the room is a comfortable temperature when you wake up.

Away for a day: Just leave the system running as usual.

or 'frost protection' setting on the control panel, which will lower the room temperature while you're away. This will also stop the pipes freezing if you go away in cold weather.



During the summer: Your heat pump might have a 'summer' mode, or you can simply turn down the room thermostat. This means the heating will not come on, but you will still get hot water. You can **raise your heating temperature again slowly as the autumn approaches.**

If the heat pump turns off...

If you have a power cut the heat pump will turn off. If the power is off for a long period, the heat pump will need to warm itself up before it can heat your home again. Check your instructions as this may happen automatically or you may need to select a setting.

If you have a pre-payment electricity meter you risk the heat pump turning off if the meter runs out of money. So always try to keep money on your meter or consider changing your meter and paying monthly or quarterly bills instead.

Hot water tank

The heat pump should heat your hot water tank to around 35-40°C. However, this is not hot enough to kill any bacteria in the tank. The tank should be timed to heat up to 60°C once a week.





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Some additional things to be aware of...

Control unit: The main control unit is often in a cupboard and should only be adjusted by a trained engineer (e.g. at an annual service), otherwise accidental changes risk increasing your running costs. A separate 'user' unit should include the settings you need to use.



Electricity tariffs: In general, heat pumps are best run on a single-rate tariff rather than Economy 7 (where you have cheaper night electricity, but it's more expensive during the day).

Troubleshooting

Symptom	Possible cause	Fix
Display remains dark Or No changes in the display when the rotary knob is turned Or No changes in the display when the selection buttons are pressed	Software error	1. Switch off the mains switch on all heat generators for approx. 1 minute and then switch them on again. 2. If the fault persists, call an engineer.
Display view: Button lock active To unlock, press OK for 3 seconds, it is not possible to change the settings or values	Button lock is active	1. If you would like to change any of the values, follow the instructions on the display. 2. Also read through the Button lock Activate function on page 13 in your manual.
Display view: Restricted operation/ comfort protection, insufficient heating up of the heating and the domestic hot water	Heat pump does not work	1. Call an engineer. 2. Select the setting for limp home mode until they arrive. 3. To do this, read through the Implementing the setting when the heat pump fails function on page 17 of your manual.
Display view: Fault F. Fault: Heat generator 1, the specific fault code (e.g. F.33) and the specific heat generator appear behind F. in the display	Heat generator faults	1. Carry out a Reset fault message on page 17 of your manual. 2. If the fault persists, call an engineer.